

Atty. Docket No. YOR920010538US1
(590.075)

REMARKS

Applicants and the undersigned are most grateful for the time and effort accorded the instant application by the Examiner. The Office is respectfully requested to reconsider the rejection present in the outstanding Office Action in light of the following remarks.

Claims 1-21 were pending in the instant application at the time of the outstanding Office Action. Of these claims, Claims 1, 11, and 21 are independent claims; the remaining claims are dependent claims. Claims 1, 11, and 21 have been amended. Claims 2 and 12 have been cancelled and their subject matter incorporated into the independent claims. Applicants intend no change in the scope of the claims by the changes made by these amendments. It should also be noted these amendments are not in acquiescence of the Office's position on allowability of the claims, but merely to expedite prosecution.

Claims 1-7, 9-17, and 19-21 stand rejected under 35 USC § 102(b) as being anticipated by Parthasarathy et al. Reconsideration and withdrawal of this rejection is respectfully requested.

As best understood, Parthasarathy et al. appears to be directed to a speaker identification and verification system. In Parthasarathy et al. it seems that an N-best list is generated from a speaker-independent phrase recognizer by scoring the N highest phrases from a database, (Col. 5, lines), which is then used to retrieve the N-best speaker-dependent candidates from another database. "[F]or each of the N best identities,

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the score processor receives (i) the speaker-independent phrase recognizer and (ii) the speaker-dependent score generated by the speaker dependent phrase recognizer." (Col. 5, lines 31-34). The scores are then summed and the candidate having the highest score is selected and, subsequently, verified by determining whether the "[d]ifference between the speaker-dependent score ...and the speaker-independent score..." meet a particular threshold value. (Col. 5, 52-55).

As discussed in the Applicants' Specification and in stark contrast to the cited art, among the advantages of the present invention is the creation of statistical models of the scores and model identities in an N-best list. (Page 5, lines 15-16) As is indicated, "This modeling is separate from the modeling that is done of the acoustic properties in the speech signal. In fact, such acoustic models are preferably used in order to generate the scores in the N-best lists." (Page 5, lines 16-18) In at least one embodiment of the present invention the set of scores in the N-best list are used as a feature vector, which are collected for inconclusive/conclusive trials, i.e., development data, as well as to build models of these N-best list score feature vectors. (Page 6, line 13- Page 7, line 2; Page 7, lines 6-7). During, testing an N-best score feature vector is matched to the previously created models to determine how to classify the test segment. (Page 8, line 11 - Page 9, line 16) In one aspect of the present invention a statistical model of the actual identities of the speaker models populating the N-best list during development for each target speaker model is created. (Page 8, lines 1-4) During testing, the contents of the particular N-best list generated, is matched against what was determined during development. (Page 8, line 11 - Page 9, line 16)

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Exemplary of the limitations contained in the present Independent Claims (Claims 1, 11, and 21) is method Claim 11, which now recites, "A method of facilitating speaker identification, said method comprising the steps of: accepting input speech; generating at least one N-best list based on the input speech; positing a system output based on the input speech; and ascertaining, via at least one statistical property of the N-best list, whether the posited system output is inconclusive." (Claim 11)

It is respectfully submitted that Parthasarathy et al. clearly falls short of present invention (as defined by the independent claims) in that, *inter alia*, no such modeling as described by the present invention is performed. Rather, Parthasarathy et al. simply examines the scores from a generated N-best list to make a verification decision. The scores are not used as features in the creation of models reflecting how the N-best scores should look in inconclusive test trials. The reference, also, fails to teach the consideration of the actual model identities in the N-best lists as is evident in Column 5 of the cited reference. Accordingly, Applicants respectfully submit that the applied art does not anticipate the present invention because, at the very least, "[a]nticipation requires the disclosure in a single prior art reference of each element of the claim under construction." *W.L. Gore & Associates, Inc. v. Garlock*, 721 F.2d 1540, 1554 (Fed. Cir. 1983); *see also In re Marshall*, 198 U.S.P.Q. 344, 346 (C.C.P.A. 1978).

Claims 2-5 and 8-11 stand rejected under 35 USC § 103(a) as obvious over Parthasarathy et al. in view of Burges. Specifically the Office asserted, "As to Claims 8 and 18, Parthasarathy doesn't teach using gaussian densities. Burges, however, teaches a method for identifying a speaker using a weighted sum of gaussian densities. It would

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have been obvious to one of ordinary skill in the art to use gaussian model in Parthasarathy teaching, in view of Burges, as an alternative way of calculating the scores." (Office Action, p. 3)

A 35 USC 103(a) obviousness rejection requires three basic criteria be met, namely: (1) the combined references teach or suggest all of the claim limitations; (2) a suggestion or motivation to make the modification or combination; and (3) an expectation of success. Reconsideration and withdrawal of the present rejections are hereby respectfully requested.

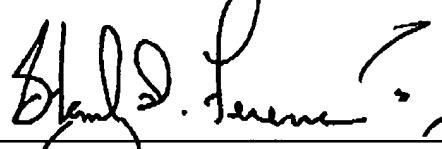
The combined references fail to teach the present invention. Specifically, the use of Gaussian Mixture Models as disclosed in Burges does not overcome the deficiencies of Parthasarathy et al. set forth above. Nor does the combination produce the type of modeling present in the current invention, e.g., statistical models of the scores and model identities in an N-best list. Therefore, even if there were a motivation for the combination, the combination does not teach or suggest the claimed invention. Thus, the invention is not obvious over Parthasarathy et al. in view of Burges.

In light of the foregoing, it is respectfully submitted that independent Claims 1, 11, and 21 fully distinguish over the applied art and are thus allowable. By virtue of dependence from Claims 1 and 11 it is thus also submitted that Claims 3-10 and 13-20 are also allowable at this juncture.

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In summary, it is respectfully submitted that the instant application, including Claims 1, 3-11, and 13-21 is presently in condition for allowance. Notice to the effect is hereby earnestly solicited. If there are any further issues in this application, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,



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